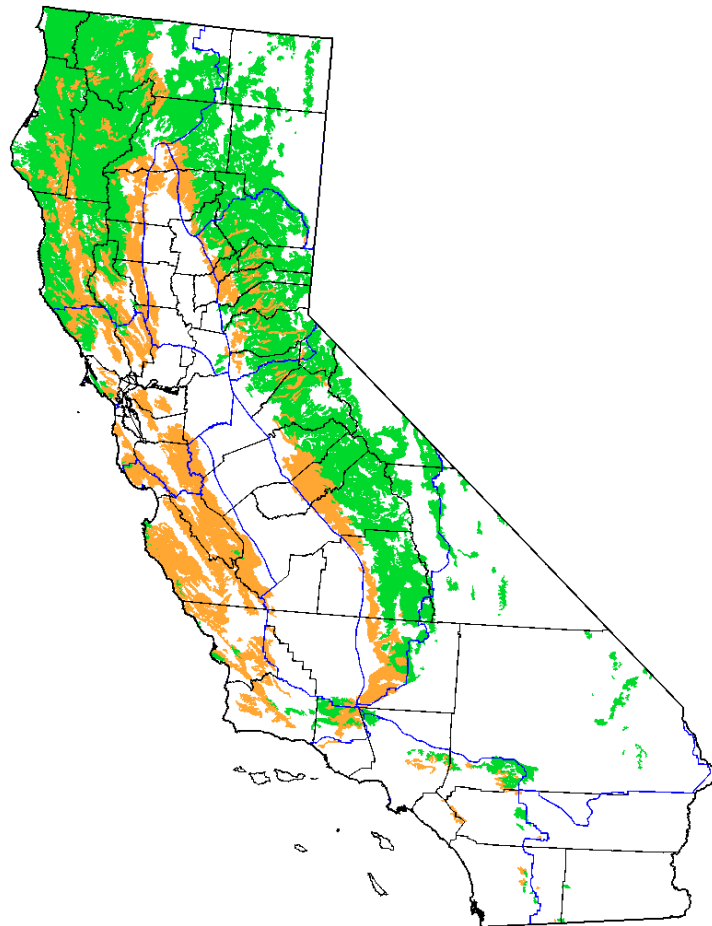




Fire and Resource Assessment Program
California Department of Forestry and Fire Protection

The Land Base of California's Forests



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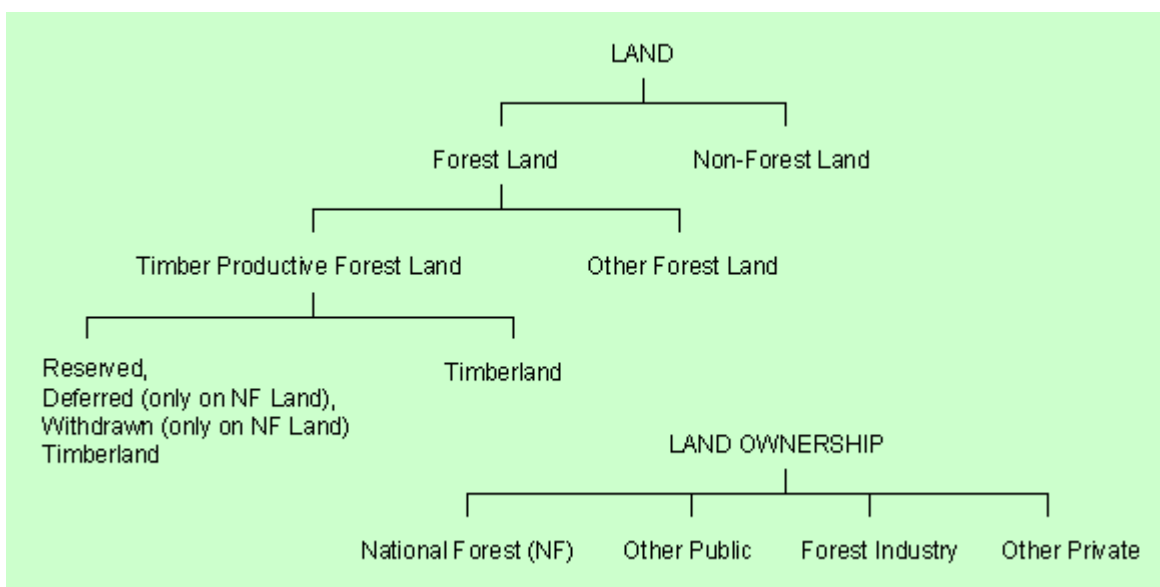
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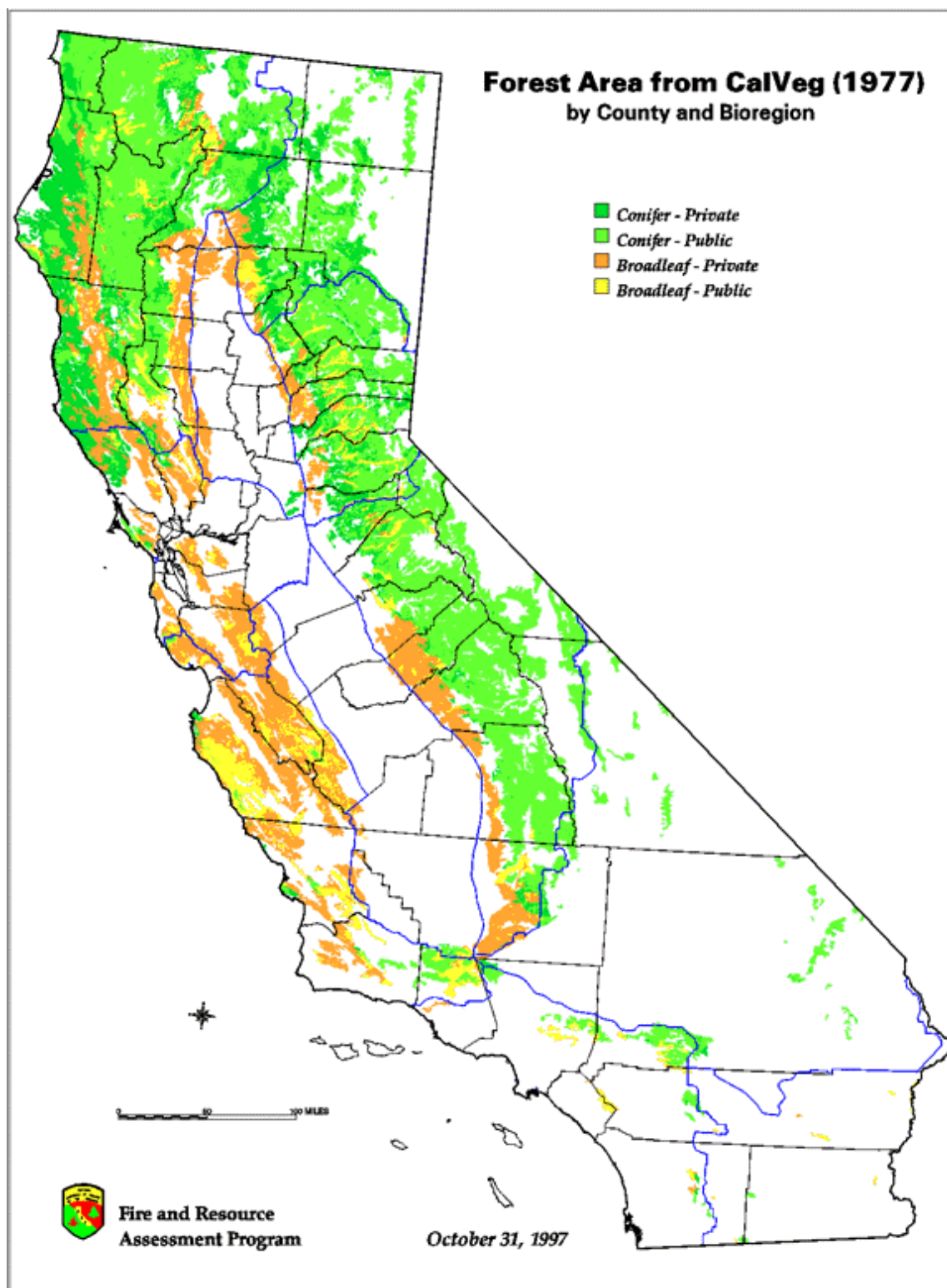
Introduction to Assessment of Extent and Ownership of Forest Lands

Extent and ownership are basic and important measures of California's forest ecosystems. Currently, forests cover about forty percent of total land base in California ([see map](#)). This proportion may change as people move into California wildlands. New residents not only convert forest land to residential uses but may also bring new requirements for fire and resource management to lands well beyond their own. In addition, new economic opportunities, such as wine grape production, may convert forest land permanently to other uses. Changes in basic forest land characteristics frame discussions on the fate of California's forests and the role of ownership and management in achieving sustainable forestry.

The analyses use forest statistics ([references](#)) from CDF, USDA/Natural Resources Conservation Service (NRCS), and USDA/Forest Service/Pacific Northwest Research Station (PNW). The principal source of data, the Pacific Resource Inventory, Monitoring and Evaluation program (PRIME) of PNW, maintains permanent field plots in California to collect Forest Inventory and Analysis (FIA) data on a ten year cycle. The FIA survey uses a grid-sampling framework with each FIA sample plot representing about 7,700 acres of land. FIA groups these data into the North Coast, North Interior, Sacramento, Central Coast, and San Joaquin and Southern Resource Areas ([see map](#)). Both maps are available on the following two pages.

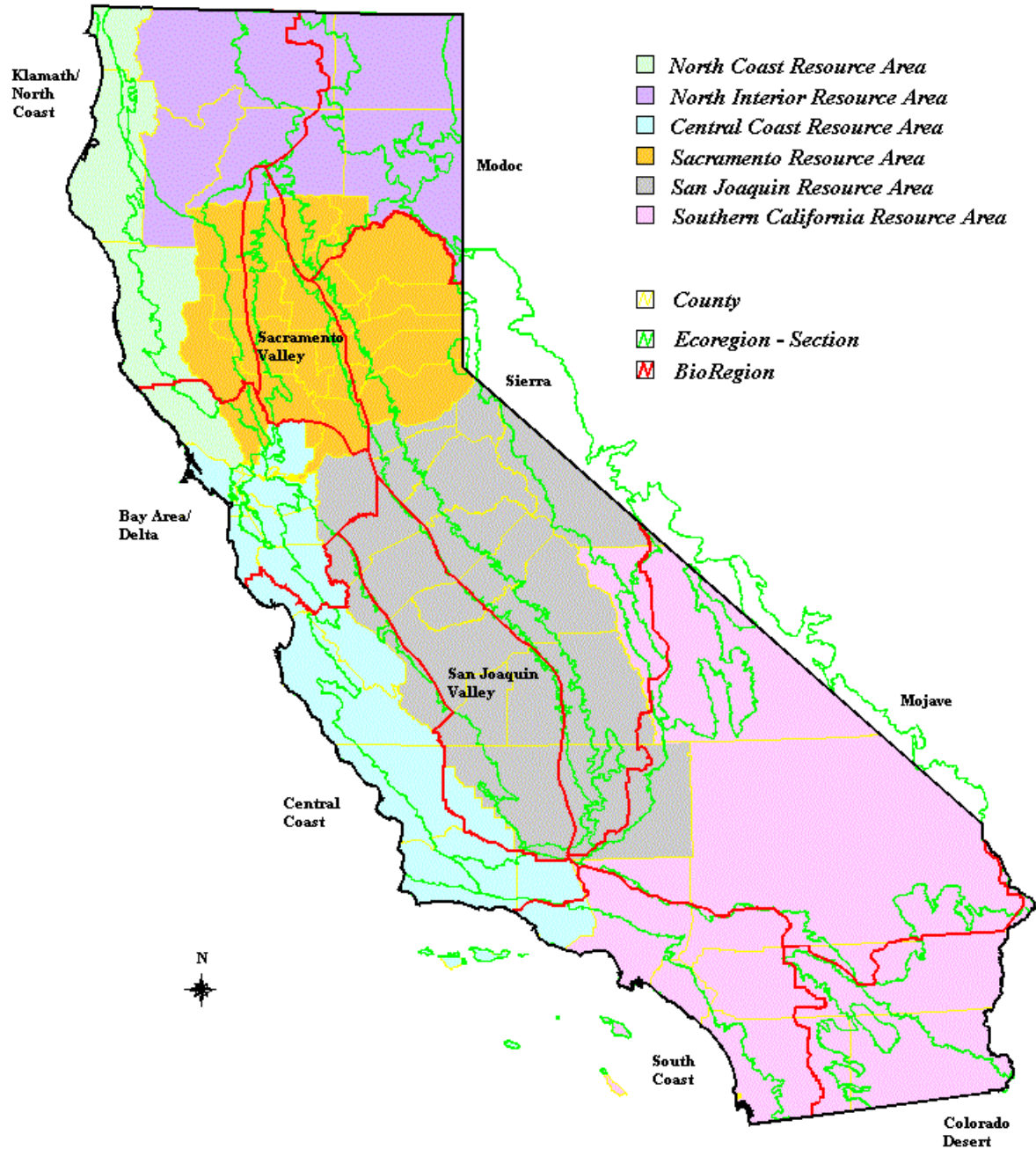
The definitions used in this assessment are critical to understanding the conclusions. Forest land includes timber productive forest land and other forest land. Timber productive forest land covers timberland, reserved timberland, deferred timberland, and withdrawn timberland. The ownership of forest land includes National Forest, other public, forest industry, and other private categories. The following figure and table portray the relationships between these terms and their specific definitions.





FIA Resource Area

with
BioRegion, EcoRegion, and County Boundaries



{PRIVATE}TERM	DEFINITION
Forest Land	Land at least 10 percent stocked with live trees, or land that had this minimum tree stocking in the past and is not currently developed for nonforest use. The minimum area recognized is 1 acre.
Timber Productive Forest Land	Forest land which is not Other Forest Land as defined below.
Other Forest Land	Forest land incapable of growing 20 cubic feet per acre per year (mean increment at culmination in fully stocked, natural stands) of industrial wood because of adverse conditions such as sterile soils, dry climate, poor drainage, subalpine sites, steepness, or rockiness.
Timberland	Forest land capable of growing 20 cubic feet or more per acre per year (mean increment at culmination in fully stocked, natural stands) of industrial wood and not in a reserved status through removal of the area from timber utilization by statute, ordinance, or administrative order; and not in a withdrawn status where it is pending consideration for reserved status.
Reserved Timberland	Forest land capable of growing 20 cubic feet or more per acre per year (mean annual increment at culmination in fully stocked, natural stands) of industrial wood that has been dedicated to noncommodity use through statute, ordinance, or administrative order.
Deferred Timberland	National Forest timberland that was under study for wilderness designation at the time of survey.
Withdrawn Timberland	Timberland in National Forests that is being considered for permanent reserved status. Although this land has not been removed from timber utilization by statute, ordinance, or administrative order, it is not being actively managed as timberland.
National Forest Lands	Federal lands that have been designated by Executive order or statute as National Forest or purchase units and other lands under the administration of the Forest Service, U.S. Department of Agriculture, including experimental areas and Bankhead-Jones Title III lands.
Other Public Lands	Lands administered by public agencies other than the U.S. Department of Agriculture, Forest Service. Native American lands were included in this category in the FIA OCC2 (1984) data but not included in this category in the FIA OCC3 (1994) data.
Forest Industry Lands	Lands owned by companies that grow timber for industrial use. Includes companies both with and without wood processing plants.
Other Private Lands	Private lands not owned by forest industry. Native American lands, farmer-owned lands, and miscellaneous private lands were included in this category in the 1994 FIA survey data but only farmer-owned lands and miscellaneous private lands were included in this category in the 1984 survey.

Readers must review the definition of terms and the confidence intervals of FIA data published in all FIA publications to fully understand the findings and to avoid erroneous conclusions. FIA is designed for national resource assessment and seeks to reduce sampling error to acceptable levels at the scale of the Resource Area. When users such as FRAP summarize the data for smaller units such as ownership or county, the coefficients of variation of FIA data grow.

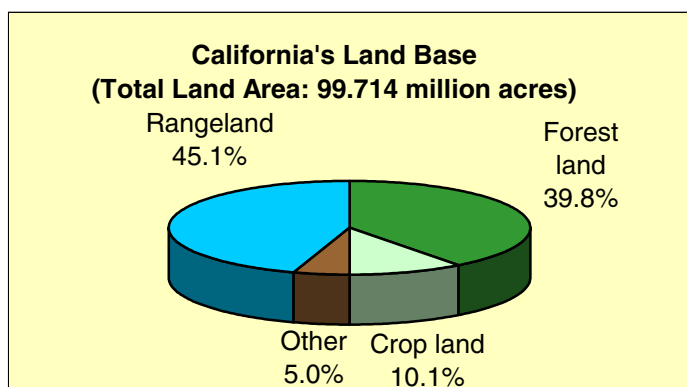
Continuous FIA data are generally not fully comparable over time because of changes in procedures and definitions used on each occasion of FIA surveys both inside and outside National Forest boundaries. Changes in forest survey protocols confound real and methodological changes and make it difficult to

discern real trends with confidence. FRAP has launched a cooperative project with PRIME to render continuous FIA data outside National Forests fully comparable over time as a basis for California's Forest Resource Assessment. All summary data supporting the figures and tables of this analysis can be retrieved via [ASCII](#) or clicking the figure numbers in parenthesis under each graph will lead to a direct view of these actual data in [table format](#).

Current Forest Extent

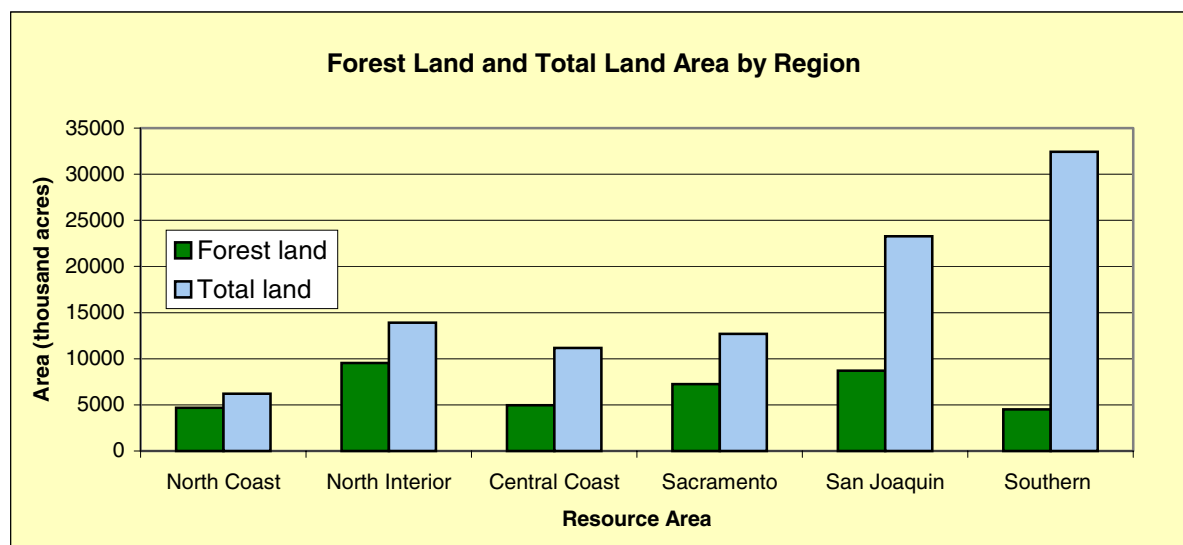
Forest Land

- California has 39.7 million acres of forest land, which covers 39.8 percent of the state's total land area.



(Figure 1a)

- More than half of the land in the North Coast, North Interior, and Sacramento Resource Areas is forest land. In the North Coast Resource Area, 76 percent of the land is forested. In contrast, only 14 percent of the Southern Resource Area is forested. The North Interior has only 14 percent of the total land area but possesses 25 percent of the forest land in California.

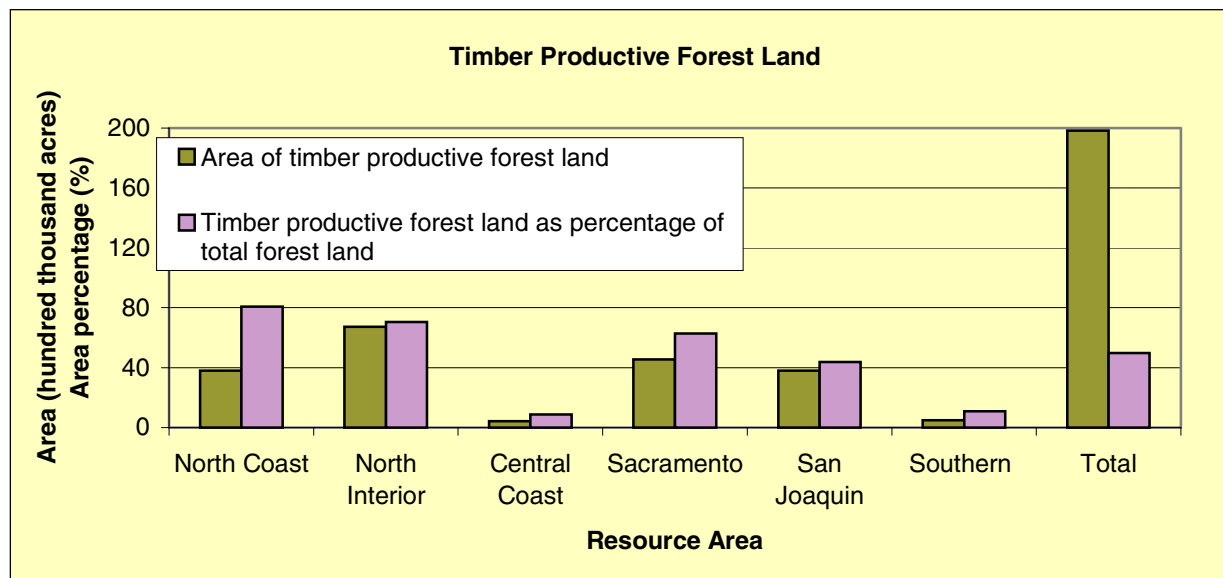


(Figure 1c)

- Timber productive forests - forest lands capable of timber production - cover 50 percent (19,826,000 acres) of the forest land in the state and are the dominant

- **Resource Areas with little timber productive land have high proportions of that land type in reserved or withdrawn status.**

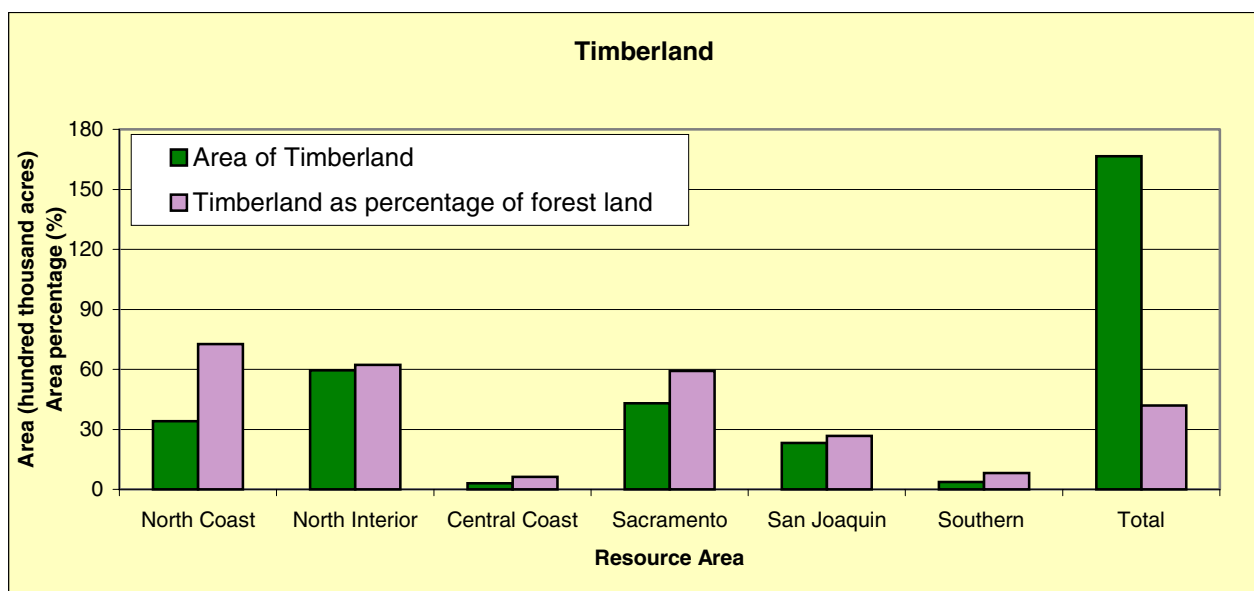
Reserved or withdrawn timberland covers eight percent (3,176,000 acres) of forest land or 16 percent of timber productive forest land statewide. The San Joaquin Resource Area has the highest percentage, 38 percent, of timber productive forest land in reserved status among all resource areas while the Sacramento Resource Area has only six percent of timber productive forest land in the same status. The Central Coast Resource Area has only two percent of timber productive forest land in the state but 30 percent of that occurs as reserved or withdrawn timberlands.



(Figure 1e1)

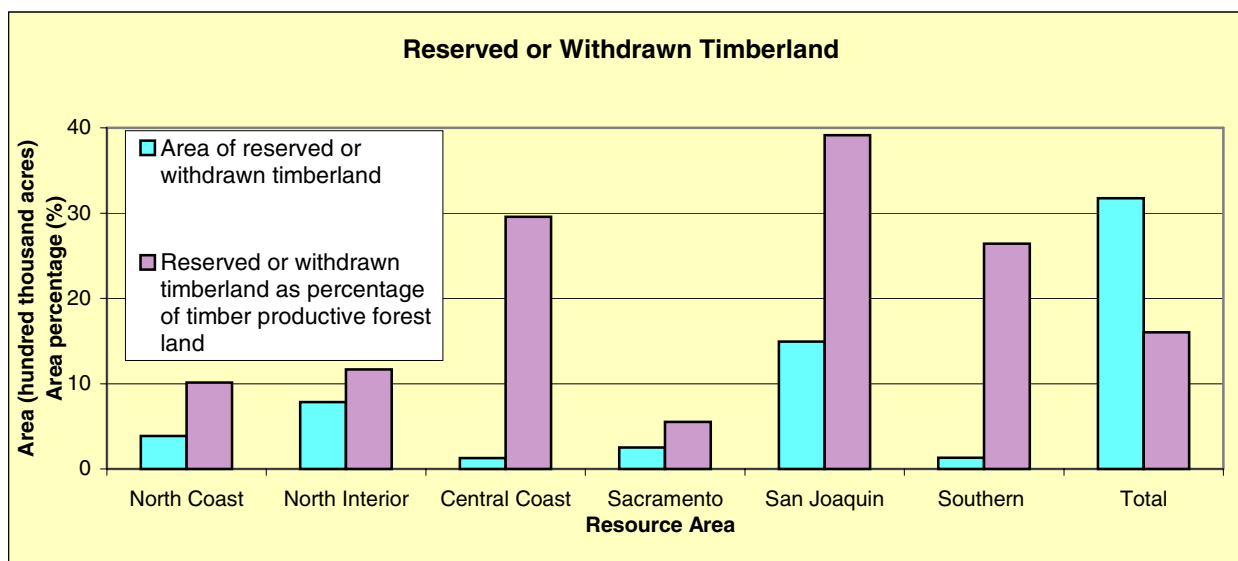
Timberland

- **Most of the timber productive forestland in the state (84%) is available for timber production; i.e., qualifies as timberland.** Timberland covers 42.0 percent (16,651,000 acres) of forest land or 84 percent of timber productive forest land in California. The North Coast, North Interior, and Sacramento Resource Areas possess 82 percent of timberland in the state. On the contrary, the Central Coast and Southern Resource Areas only cover four percent of timberland in California.



(Figure 1e2)

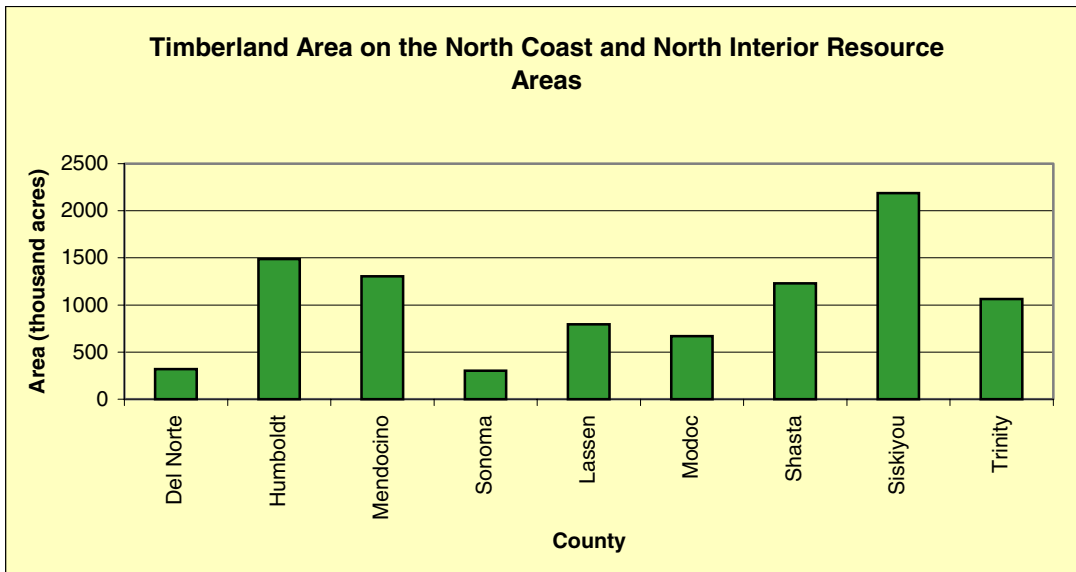
- Resource Areas with little timber productive land have high proportions of that land type in reserved or withdrawn status.** Reserved or withdrawn timberland covers eight percent (3,176,000 acres) of forest land or 16 percent of timber productive forest land statewide. The San Joaquin Resource Area has the highest percentage, 38 percent, of timber productive forest land in reserved status among all resource areas while the Sacramento Resource Area has only six percent of timber productive forest land in the same status. The Central Coast Resource Area has only two percent of timber productive forest land in the state but 30 percent of that occurs as reserved or withdrawn timberlands.



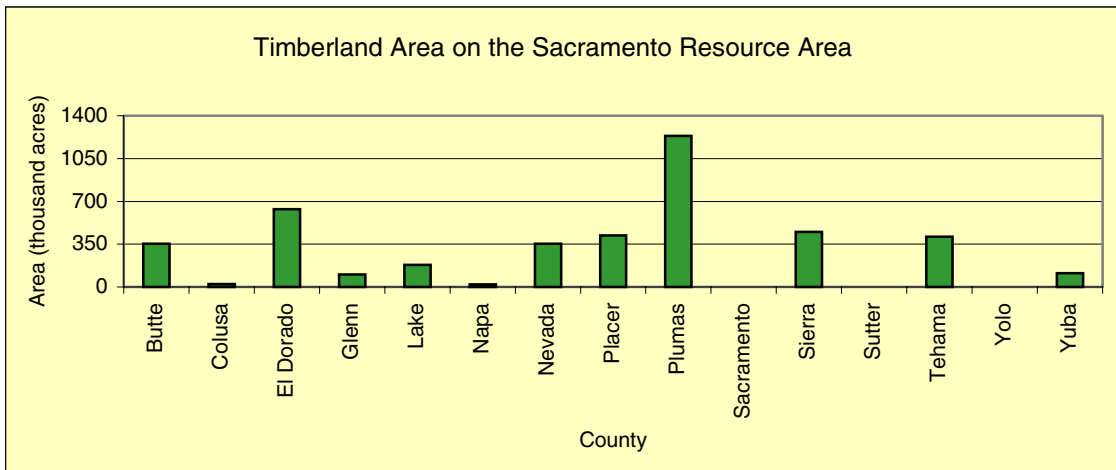
(Figure 1e3)

- Siskiyou, Humboldt, and Mendocino Counties lead the state in timberland extent** with 2,200,000 acres or 13.2 percent of the state's timberlands, 1,480,000 acres or 8.9 percent of the state's timberlands, and 1,300,000 acres or 7.8 percent of the state's timberlands, respectively. Santa Cruz possesses more than half of the timberland (156,000 acres) in the Central Coast

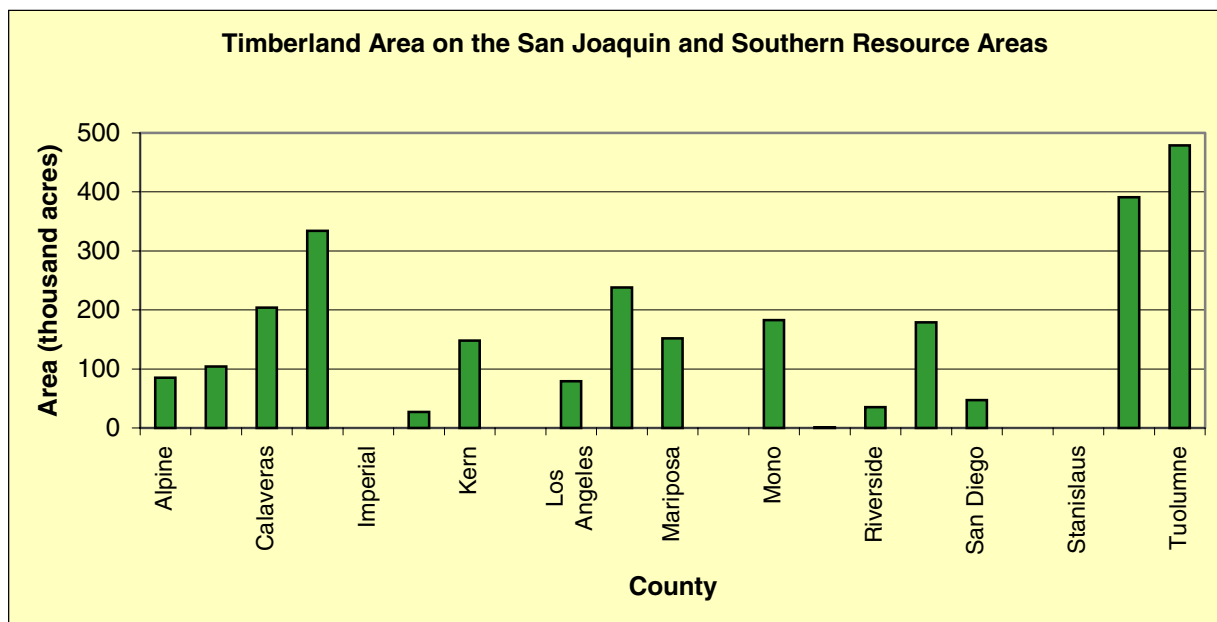
Resource Area. Plumas alone has almost 30 percent of timberland (1,235,000 acres) in the Sacramento Resource Area. Tuolumne, Tulare, and Fresno counties together contain almost half of timberlands (479,000 acres, 391,000 acres, and 334,000 acres, respectively) in the San Joaquin and the Southern Resource Areas.



(Figure 1j)



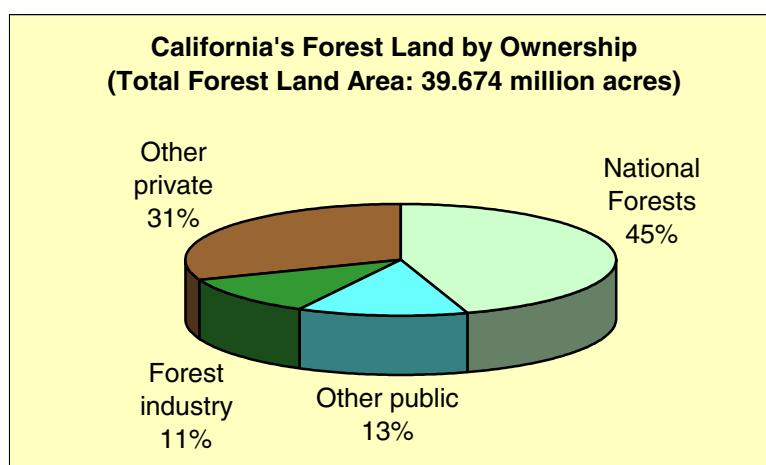
(Figure 1l)



(Figure 1m)

Forest Land by Ownership

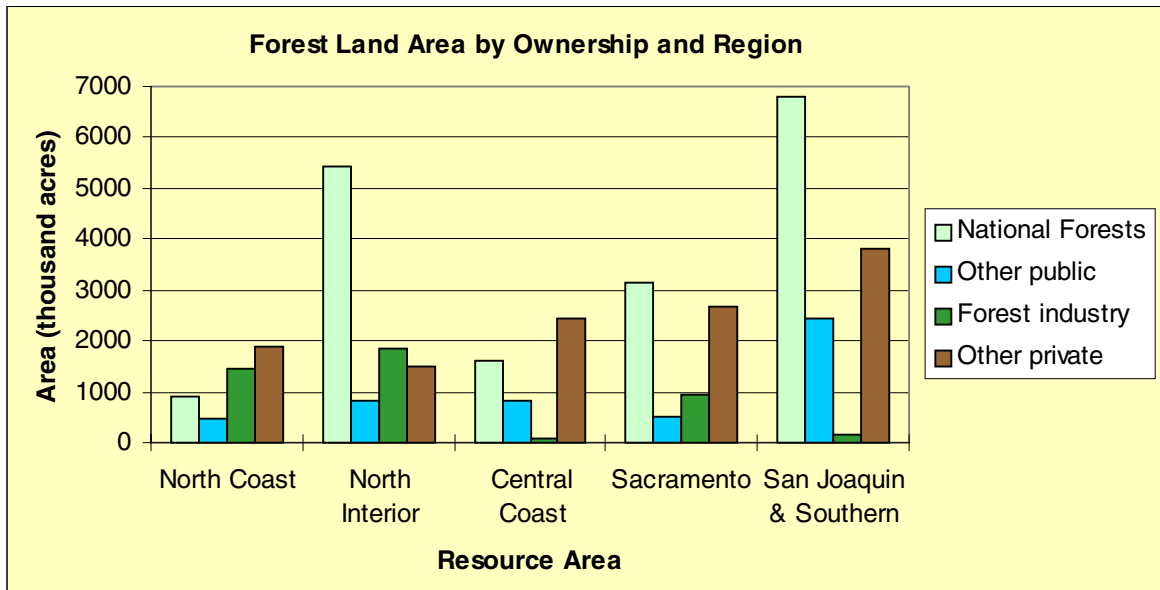
- **National Forests hold 45 percent (17,872,000 acres) of the forest land in California.** Other public owners manage 13 percent (5,054,000 acres), forest industry owns 11 percent (4,477,000 acres), and other private owners hold the remaining 31 percent (12,280,000 acres).
-



(Figure 2a)

- **The relative importance of different forest landowner types differs considerably from one region of the state to another.** Therefore, no single forest policy approach will be equally appropriate or effective across the state. Seventy-four percent of the state's industrial forest land is located in the North Interior (41 percent) and the North Coast (33 percent) Resource Areas. Other private forest lands are concentrated mostly in the San Joaquin and Southern Resource Areas (31 percent). The forest land within National Forests is found principally in the San Joaquin and Southern (38 percent) and the North Interior (30 percent) Resource Areas. Other

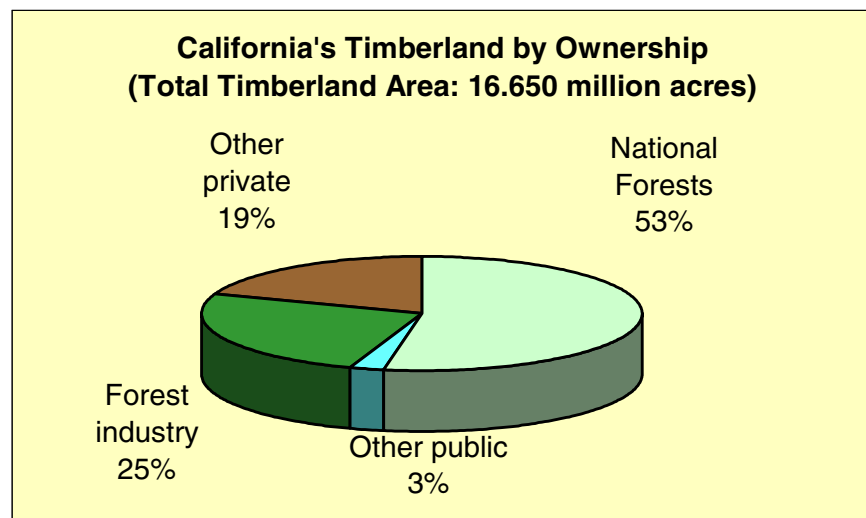
private owners hold the largest proportion of forest land in the Central Coast (49 percent) and the North Coast (40 percent) while National Forests dominate in all other resource areas.



(Figure 2b)

Timberland by Ownership

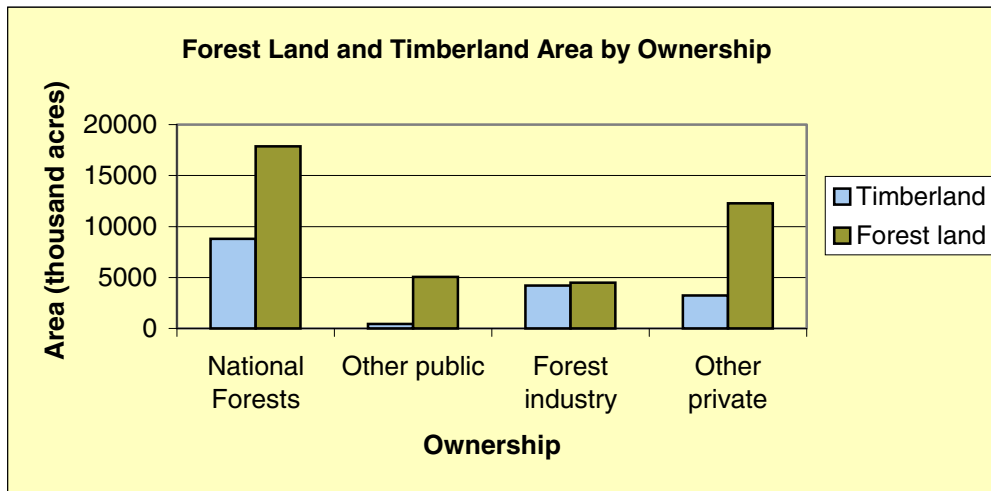
- Timberlands are concentrated on forest industry and National Forests, and the National Forests remain the major timberland owner in the state.** Forest industry holds 25 percent (4,198,000 acres) of timberlands but only 11 percent of the forest land in the State. National Forests cover 53 percent (8,783,000 acres) of the timberlands in California but only 45% of the forest land. On the other hand, other private owners have only 19 percent (3,239,000 acres) of timberland but hold 31 percent of forest land. Other public owners manage the remaining three percent (430,000 acres) of the timberlands but 13% of the forest land.



(Figure 2f)

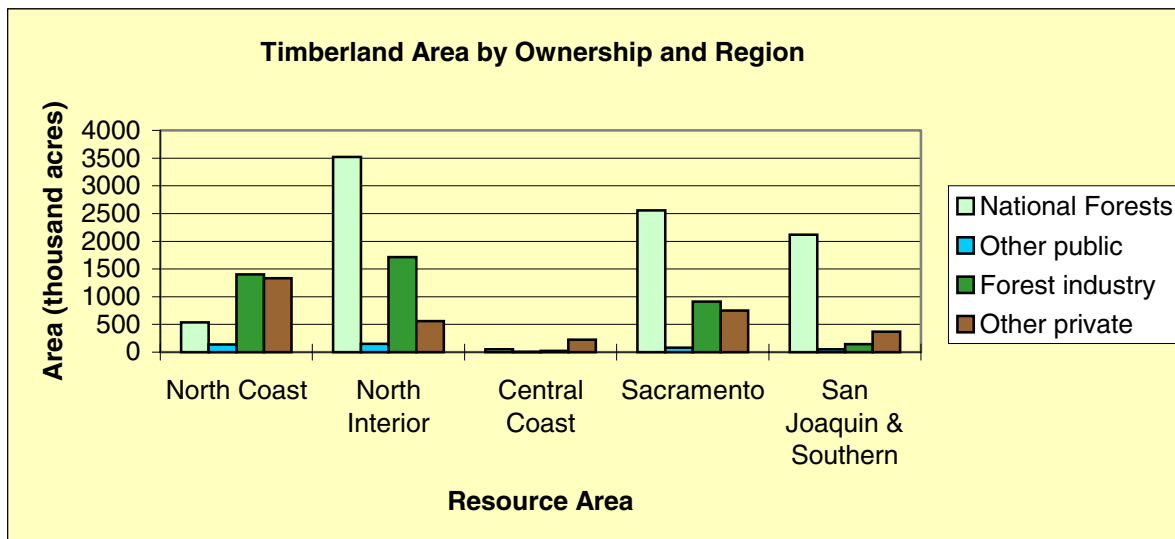
- Different landowner classes hold radically different portfolios of forest land.** Programs aimed at different landowner classes must necessarily address quite different issues. Ninety-four percent of industrial forest land is classified as timberland but only eight percent of other public

forest land is timberland. Timberlands cover 49 percent of the forest land on National Forests and 26 percent on other private forests.



(Figure 2f1)

- **The relative importance of timberland owner types differs considerably from one region of the state to another.** The development of commercial forestry policy confronts radically different land tenure situations in each region of the state. National Forests are the predominant timberland owners in North Interior, Sacramento, San Joaquin and Southern Resources areas. Forest industry is first in the North Coast and second in North Interior and Sacramento. Other private owners predominate in the Central Coast and vie with forest industry for first place in the North Coast.



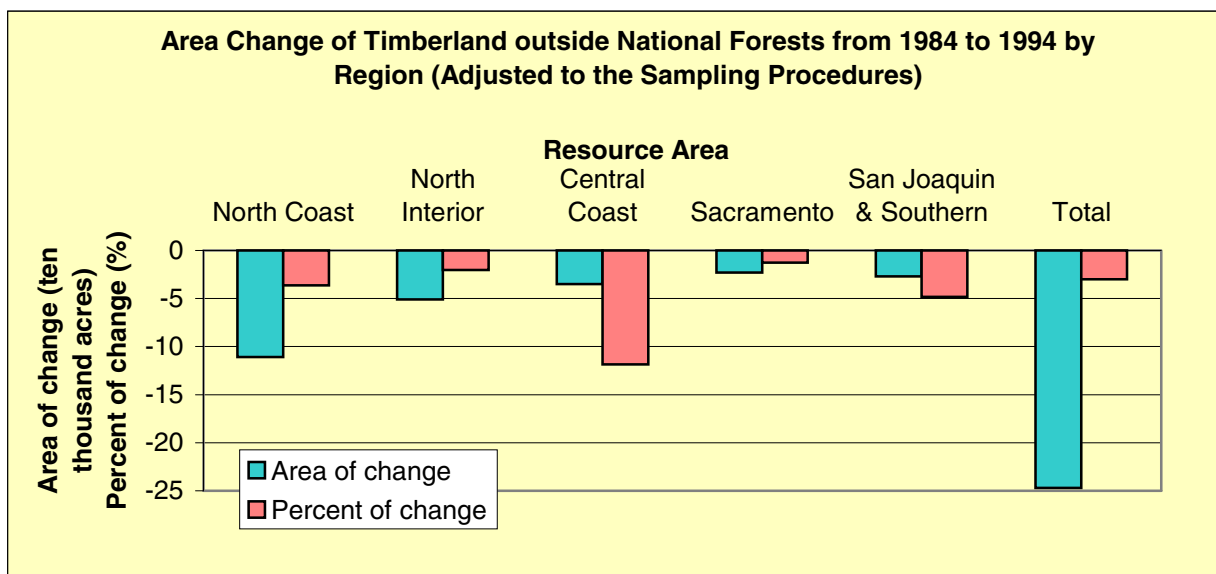
(Figure 2g)

PART A - With the Adjustment to Changes in Sampling Over One Decade

The following analyses reveal the changes in timberland acreage outside of National Forests between the last two FIA surveys by adjusting old FIA data using new sampling definitions and procedures.

Timberland

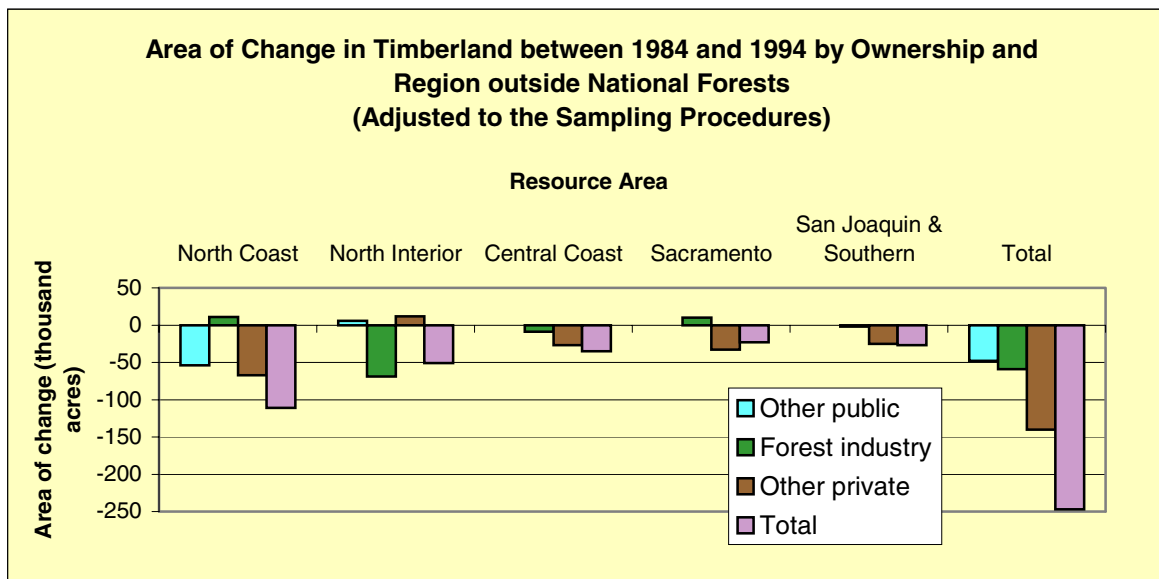
- **Timberland area outside the National Forests declined 247,000 acres (3.0 percent) from 1984 to 1994.** All six Resource Areas lost timberland. The North Coast lost the most absolute area of timberland (110,000 acres or 3.5 percent), and the Central Coast lost the highest percentage of timberland (12 percent or 38,000 acres).



(Figure 1n)

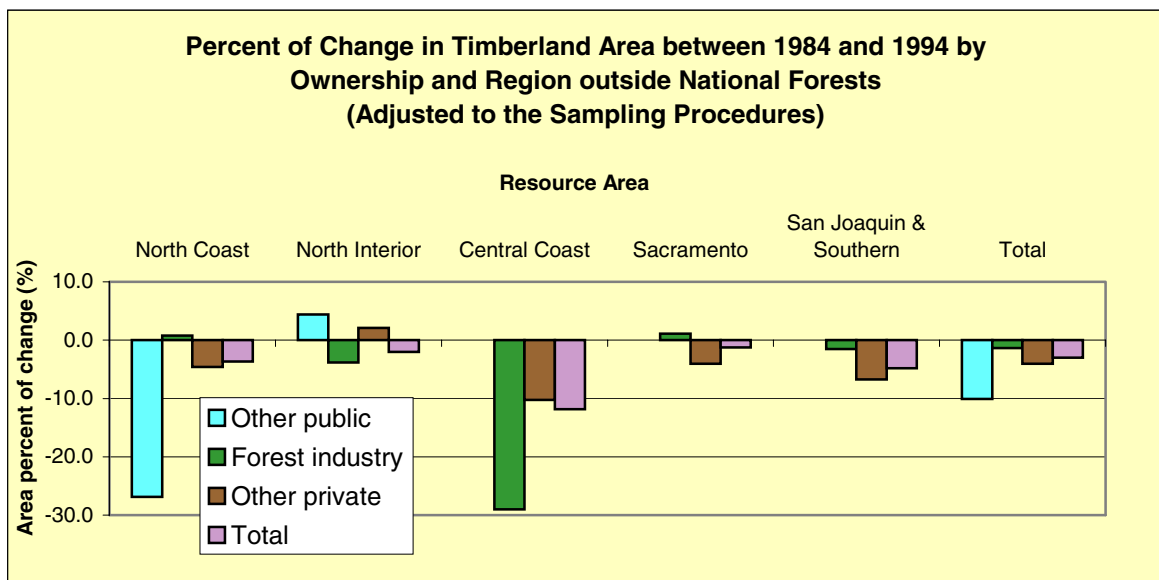
Timberland by Ownership

- **The distribution of loss of timberland outside the National Forests across landowner type varies considerably across region.** Each region follows a different conversion trajectory. In the North Coast other public and other private were the principal sources of loss while forest industry gained timberlands. The situation was completely reversed in the North Interior where other private and other public gained some timberland while forest industry lost timberland. In the Central Coast and the San Joaquin and Southern Areas all ownership classes lost timberland with most of that loss coming from other private.



(Figure 2h1)

- **In percentage terms, other public timberland in the North Coast and forest industry timberland in the Central Coast contracted significantly from 1984 to 1994.** The role of these landowner types in timberland management in these regions merits further study. Timberland area outside the National Forests declined by 10 percent (48,000 acres) on other



(Figure 2i1)

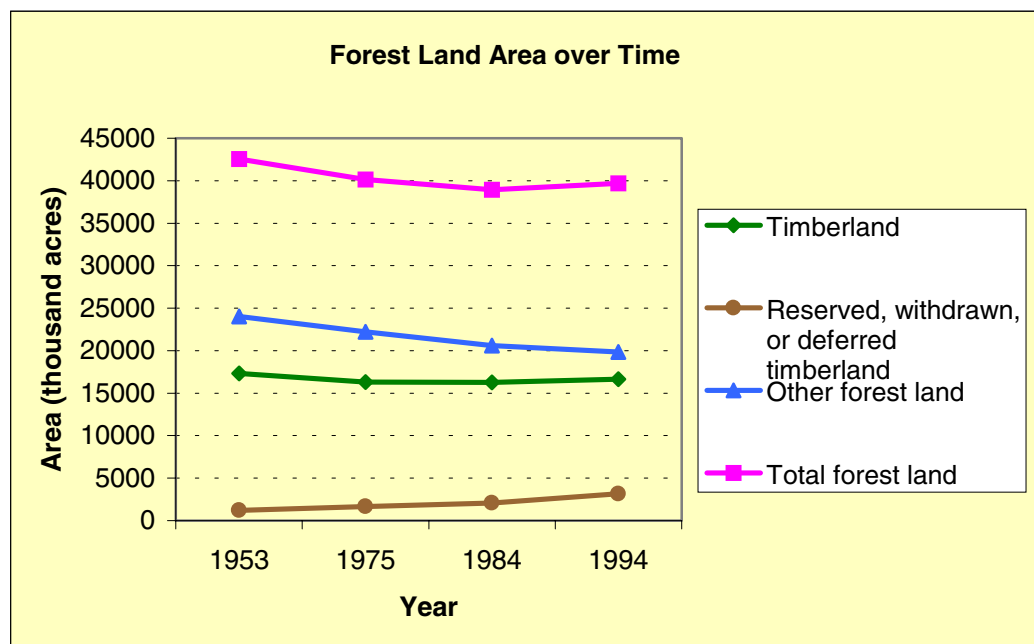
public lands, 4.0 percent (140,000 acres) on other private lands, and 1.4 percent (59,000 acres) on industrial lands between 1984 and 1994. The North Coast Resource Area shows a 27 percent decline in other public timberlands. In the Central Coast Resource Area, a 29 percent decline occurs in industrial timberlands as well as a 10 percent decline in other private timberlands.

PART B - Without the Adjustment to Changes in Sampling Over Four Decades

The following analyses trace the changes in timberland acreage over the last four decades without adjusting FIA data among different sampling definitions and procedures. However, these numbers represent our best knowledge on changes in forest extent over the long term.

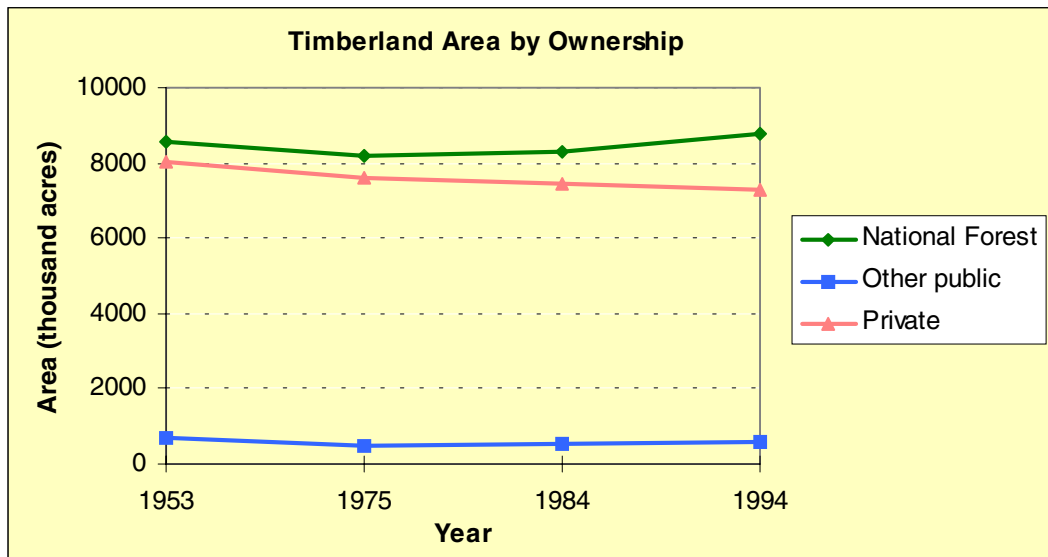
Forest Land and Timberland

- **The extent of forest land and timberland has been remarkably stable over the past four decades.** The development of the state since World War II has not greatly decreased forest land or timberland extent. Forest land declined 2,866,000 acres or 6.7 percent and timberland declined 666,000 acres or 3.8 percent during the past forty years. Other forest land decreased 4,173,000 acres or 17.4 percent. During that same period, however, the removal of timberland from production has accelerated. The allocation of timber productive land to reserved, withdrawn, or deferred timberland has increased 1,973,000 acres or 164 percent. The proportion of reserved and withdrawn timberland of timber productive forest land has increased from 6 percent to 16 percent.



([Figure 1b1](#))

- **Most of the removal of timberland from production has occurred on public land.** The private timberland base remains largely intact. [GGI] Private timberland declined 756,000 acres or 9.4 percent over the past four decades. The proportion of private ownership of timberlands also declined from 47 percent to 44 percent.



(Figure 2e)

FOR MORE INFORMATION

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Please provide your comments!

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